

Message Text

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ORIGIN ERDA-07

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CIAE-00 DOTE-00 HEW-06 HUD-02 INR-07 INT-05 L-02

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TO USMISSION NATO PRIORITY

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E.O. 11652: N/A

TAGS: CCMS/ENRG

SUBJ: CCMS: PRESS BACKGROUND STATEMENT ON GEOTHERMAL ENERGY

BEGIN PRESS STATEMENT

GEOTHERMAL ENERGY IS ENERGY RESULTING FROM HEAT FLOWS WITHIN THE EARTH. SINCE THE TOTAL HEAT CONTENT OF THE EARTH IS EXTREMELY LARGE, IT IS TEMPTING TO ASSUME THAT SUCCESSFUL GEOTHERMAL DEVELOPMENTS COULD OPERATE ESSENTIALLY IDEFINITELY WITH A RENEWABLE RESOURCE, AS SOLAR ENERGY CAN. IN GENRAL, THIS IS NOT THE CASE. TYPICALLY, HEAT IS "MINED" BY GEOTHERMAL WELLS, AND ITS REPLENISHMENT BY HEAT CONDUCTION WITHIN THE EARTH'S CRUST IS SO SLOW THAT THE ENERGY RESOURCE IS AS DEPLETABLE AS A FOSSIL FUEL. THE EXCEPTION TO THIS RULE MAY BE IN REGIONS OF PROLONGED FLOW OF MAGMA (UNDERGROUND MOLTEN ROCK).

GEOTHERMAL HEAT IS TRANSFERRED FROM THE SUBSURFACE TO THE SURFACE AS
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STEAM OR HOT WATER. NATURAL MANIFESTATIONS OF SUCH TRANSFER INCLUDE

GEYSERS AND HOT SPRINGS. SUCH PHENOMENA ARE CONCENTRATED IN AREAS WITH FREQUENT EARTHQUAKES AND ACTIVE VOLCANOES. MAN BEGAN DRILLING FOR GEOTHERMAL RESERVOIRS NEAR SUCH NATURAL OCCURRENCES, JUST AS HE DID NEAR OIL SEEPS FOR PETROLEUM. IN ITALY NEAR SIENA IN 1904 ELECTRICITY WAS FIRST PRODUCED FROM A STEAM WELL. NOW 400 MEGAWATTS OF

ELECTRICITY ENOUGH FOR A CITY OF HALF MILLION, IS BEING PRODUCED. A SIMILAR AMOUNT IS BEING GENERATED AT THE GEYSERS, NORTH OF SAN FRANCISCO, CALIFORNIA.

NEW ZEALAND ALSO HAS A LARGE GEOTHERMAL ELECTRICITY PROGRAM, PRODUCING NEARLY 200 MEGAWATTS AT WAIRAKEI ON THE NORTH ISLAND. SMALLER POWER INSTALLATIONS ARE OPERATING IN JAPAN, THE SOVIET UNION, MEXICO, EL SALVADOR, AND ICELAND. ICELAND ALSO HAS A LARGE NON-ELECTRIC PROGRAM, WITH HALF ITS POPULATION OBTAINING SPACE HEAT AND HOT WATER FROM GEOTHERMAL WELLS. OTHER NON-ELECTRIC ACTIVITIES SUCH AS

HEATED GREENHOUSES AND SNOW-MELTING ARE FOUND IN OTHER PARTS OF THE WORLD. SINCE GEOTHERMAL HEAT CANNOT BE TRANSPORTED ECONOMICALLY MORE THAN A FEW MILES, IT MUST BE USED WHERE IT IS FOUND AND IS THUS THE ARCHETYPE OF A DOMESTIC ENERGY RESOURCE.

CCMS COOPERATION IN GEOTHERMAL ENERGY SEEKS TO INCREASE THE USE OF THIS IMPORTANT DOMESTIC RESOURCE BY COMBINING THE RESEARCH AND DEVELOPMENT PROGRAMS OF SEVERAL COUNTRIES FOR IMPROVED EFFECTIVENESS. THE U.S. IS THE PILOT COUNTRY WITH ITALY AND TURKEY AS CO-PILOTS; THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION (ERDA) IS THE AGENCY RESPONSIBLE FOR THE U.S. EFFORT.

AS PART OF THE GEOTHERMAL WORK PROGRAM, NEW ZEALAND AND THE U.S. ARE JOINTLY PLANNING BRINE REINJECTION EXPERIMENTS AND ARE SHARING THE

RESULTS AS THEY BECOME AVAILABLE. THE FRG, FRANCE, INDONESIA, ITALY, NEW ZEALAND, U.K., AND THE U.S. ARE CO-OPERATING IN A PROGRAM FOR THE ARTIFICIAL FORMATION OF HOT SPRINGS BY FRACTURING DEEP HOT DRY ROCK. THIS COOPERATION TAKES THE FORM OF THE TEMPORARY ASSIGNMENT OF SCIENTISTS TO PARTICIPATE IN AN ON-GOING EXPERIMENT IN NEW MEXICO, WITH THE VISITORS AIDING THE U.S. PROGRAM AND DETERMINING THE APPLICABILITY OF THE RESULT OF THEIR NATION'S GEOLOGY AND

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ECONOMICS.

TEN COUNTRIES HAVE COOPERATED IN THE PREPARATION OF A STATE-OF-THE-ART REPORT ON NON-ELECTRIC USE OF GEOTHERMAL ENERGY. DRAFTS OF THE FINAL REPORT ARE BEING CIRCULATED NOW, AND A PARIS MEETING IN JUNE WILL DETERMINE WHAT CO-OPERATIVE PROGRAMS WILL FOLLOW. A JOINT COMPUTERIZED INFORMATION STORAGE AND RETRIEVAL SYSTEM IS BEING DEVELOPED

USING FACILITIES AT THE UNIVERSITY OF PISA, THE U.S. GEO-
LOGICAL SURVEY AT RESTON, VIRGINIA, AND ERDA'S
LAWRENCE BERKELY LABORATORY, IN CALIFORNIA. A SMALL POWER
PLANT PROGRAM IS BEING CO-SPONSORED BY THE U.S. AND
PORTUGAL, AND ITALY IS TAKING THE LEAD IN A PROGRAM TO IMPROVE
THE WORLD'S UNDERSTANDING OF GEOTHERMAL RESERVOIRS. ALL
GEOTHERMAL COOPERATIVE PROGRAMS HAVE BEEN MARKED BY ENTHURIASTIC
SUPPORT AND IMMAGINATIVE PARTICIPATION BY ALL COUNTRIES TAKING
PART.

END OF PRESS STATEMENT

ACTION: APPRECIATE IF U.S. MISSION INFORMATION OFFICE
WOULD ISSUE FOLLOWING AS BACKGROUND STATEMENT FOR APRIL 9
CCMS PRESS CONFERENCE. DR. JAMES BRESEE, ACTING HEAD OF
U.S. GEOTHERMAL TASK FORCE, ENERGY RESEARCH AND DEVELOPMENT
ADMINISTRATION, WILL BE PREPARED TO BRIEF PRESS IN DETAIL
ON GEOTHERMAL ENERGY AND CCMS GEOTHERMAL WORK PROGRAM.
AS EXPERTS FROM ITALY, FRANCE, GERMANY, AND POSSIBLY U.K.
WILL BE PARTICIPATING AS PART OF NATO DRY HOT ROCK PROJECT
IN RESEARCH AND DEMONSTRATION EFFORT AT LOS ALAMOS SCIENTIFIC
LABORATORIES IN NEW MEXICO, THIS SUBJECT SHOULD BE OF
SPECIAL INTEREST TO EUROPEAN PRESS. BRESEE BRINGING VIEW-
GRAPHS FOR PRESENTATION. APPRECIATE IF MISSION WOULD
ARRANGE VIEWGRAPH PROJECTOR FOR PRESS ROOM ON APRIL 9.
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